

WHAT IS CLAIMED AS NEW AND DESIRED TO BE PROTECTED BY
LETTERS PATENT OF THE UNITED STATES OF AMERICA, IS:

1. Portable apparatus adapted to be moved along a circular locus around an article disposed at a wrapping station so as to be capable of wrapping the article in wrapping film, comprising:

a chassis framework;

5 a plurality of wheels mounted upon said chassis framework so as to enable said portable apparatus to be moved around a wrapping station at which an article is to be wrapped;

10 a vertically oriented mast assembly mounted upon said chassis framework;

a film roll carriage vertically movable upon said vertically oriented mast assembly between **START** and **FINISH** positions during a film wrapping operation performed upon an article at the wrapping station;

15 a roll of wrapping film mounted upon said film roll carriage;

connection means operatively connected at a first end portion thereof to said film roll carriage, and operatively connected at a second end portion thereof to said chassis framework, for biasing said film roll carriage in a vertically upward direction; and

20 control means mounted upon said vertically oriented mast assembly for movement between **ENGAGED** and **DISENGAGED** positions with respect to said connection means so as to operatively control the vertical movement of said film roll carriage along said vertically oriented mast assembly be-

tween said **START** and **FINISH** positions depending upon the disposition of said control means at a particular one of said **ENGAGED** and **DISENGAGED** positions.

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2. The apparatus as set forth in Claim 1, wherein said connection means comprises:

at least one spring member having a first end portion operatively connected to said chassis framework; and
10 a lift member, selected from the group comprising a lift cable, a lift strap, and a lift belt, having a first end portion operatively connected to said film roll carriage and a second end portion thereof operatively connected to a
15 second end portion of said at least one spring member.

3. The apparatus as set forth in Claim 2, wherein:

20 said at least one spring member comprises a pair of negator spring members which are normally disposed in a **CONTRACTED, COILED** state but which can be moved to an **EXTENDED UNCOILED** state so as to impart a biasing force upon said film roll carriage, through means of said lift member,
25 so as to tend to cause said film roll carriage to undergo vertically upward movement along said vertically oriented mast assembly.

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4. The apparatus as set forth in Claim 2, wherein:

said vertically oriented mast assembly comprises a vertically oriented mast member, and at least one mounting plate fixedly mounted upon an upper end portion of said vertically oriented mast member;

5 said control means comprises a holding pawl pivotally mounted upon said at least one mounting plate between said **ENGAGED** and **DISENGAGED** positions; and

 a tensioning spring has a first end portion thereof mounted upon said at least one mounting plate, and a second end portion thereof connected to said holding pawl so as
10 to normally bias said holding pawl toward said **ENGAGED** position with respect to said lift member.

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5. The apparatus as set forth in Claim 4, further comprising:

 push-bar assembly means mounted upon said vertically oriented mast assembly for enabling an operator to operatively steer said apparatus around the wrapping station;
20 and

 release means operatively connected at a first end portion thereof to said push-bar assembly means, and operatively connected at a second end portion thereof to said
25 holding pawl, so as to control said disposition of said holding pawl, in cooperation with said tensioning spring, between said **ENGAGED** and **DISENGAGED** positions with respect to said lift member.

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6. The apparatus as set forth in Claim 5, wherein:

said push-bar assembly means comprises a mounting bracket mounted upon said vertically oriented mast member, a pair of handles integrally connected together, extending
5 outwardly in opposite directions from said mounting bracket, and pivotally mounted upon said mounting bracket; and

an actuating lever fixedly mounted upon said integrally connected pair of handles and operatively connected to said release means whereupon pivotal movement of said integrally connected pair of handles, and said actuating lever,
10 er, said release means can control said disposition of said holding pawl between said **ENGAGED** and **DISENGAGED** positions with respect to said lift member.

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7. The apparatus as set forth in Claim 4, further comprising:

push-bar assembly means mounted upon said chassis
20 framework for enabling an operator to operatively steer said apparatus around the wrapping station; and

release means operatively connected at a first end portion thereof to said push-bar assembly means, and operatively connected at a second end portion thereof to said
25 holding pawl, so as to control said disposition of said holding pawl, in cooperation with said tensioning spring, between said **ENGAGED** and **DISENGAGED** positions with respect to said lift member.

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8. The apparatus as set forth in Claim 7, wherein:

said push-bar assembly means comprises a mounting bracket mounted upon said vertically oriented mast member, a pair of handles integrally connected together, extending
5 outwardly in opposite directions from said mounting bracket, and pivotally mounted upon said mounting bracket; and

an actuating lever fixedly mounted upon said integrally connected pair of handles and operatively connected to said release means whereupon pivotal movement of said integrally connected pair of handles, and said actuating lever,
10 er, said release means can control said disposition of said holding pawl between said **ENGAGED** and **DISENGAGED** positions with respect to said lift member.

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9. The apparatus as set forth in Claim 2, wherein:

said film roll carriage is vertically movable along said vertically oriented mast assembly between a lower
20 **START** position and an upper **FINISH** position, as a result of said at least one spring member being moved from said an **EXTENDED** state back to a **CONTRACTED** state, such that the wrapping operation can proceed vertically upwardly from the bottom of the article to the top of the article; and

25 reset means are mounted upon said apparatus for resetting the position of said film roll carriage back to said lower **START** position, from said upper **FINISH** position, upon completion of a film wrapping operation, so as to again cause said at least one spring member to be moved from said
30 **CONTRACTED** state to said **EXTENDED** state in preparation for a new film wrapping operation.

10. The apparatus as set forth in 9, wherein:

said reset means comprises a reset handle fixedly mounted upon said film roll carriage for enabling the operator to move said film roll carriage vertically downwardly from said upper **FINISH** position to said lower **START** position.

10 11. The apparatus as set forth in 9, wherein said reset means comprises:

a reset cable fixedly connected at one end thereof to said film roll carriage; and

a rotary sheave member, upon which a second end portion of said reset cable is connected, for coiling said reset cable so as to move said film roll carriage vertically downwardly from said upper **FINISH** position to said lower **START** position.

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12. The apparatus as set forth in Claim 1, wherein:

said film roll carriage is vertically movable along said vertically oriented mast assembly between an upper **START** position and a lower **FINISH** position whereby the wrapping operation can proceed vertically downwardly from the top of the article to the bottom of the article; and

manual means are mounted upon said apparatus for moving said film roll carriage from said upper **START** position to said lower **FINISH** position.

13. The apparatus as set forth in Claim 4, wherein:

5 said vertically oriented mast member comprises a pair of vertically stacked, separable mast members which can be separated from each other so as to reduce the height dimension of said vertically oriented mast member in order to facilitate transportation of said apparatus from one location to another.

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14. The apparatus as set forth in Claim 1, wherein:

15 said chassis framework has a substantially C-shaped rear section, upon which rear wheels are mounted, so as to define a recessed region within which an operator may stand so as to optimally control said apparatus during a film wrapping operation.

15. A method of wrapping an article, disposed at a wrapping station, within wrapping film, by means of portable apparatus which is adapted to be moved along a circular locus around the article disposed at the wrapping station, comprising the steps of:

20 providing a chassis framework upon which a plurality of wheels are mounted so as to enable said portable apparatus to be moved around a wrapping station at which an article is to be wrapped;

25 mounting a vertically oriented mast assembly upon said chassis framework;

 mounting a film roll carriage, having a roll of

wrapping film mounted thereon, upon said vertically oriented mast assembly such that said film roll carriage is vertically movable between **START** and **FINISH** positions during a film wrapping operation performed upon the article disposed at
5 the wrapping station;

operatively connecting a first end portion of a connection means to said film roll carriage, and operative-ly connecting a second end portion of said connection means to said chassis framework, for biasing said film roll car-
10 riage in a vertically upward direction; and

mounting control means upon said vertically ori-ented mast assembly for movement between **ENGAGED** and **DISEN-
GAGED** positions with respect to said connection means so as to operatively control the vertical movement of said film
15 roll carriage along said vertically oriented mast assembly between said **START** and **FINISH** positions depending upon the disposition of said control means at a particular one of said **ENGAGED** and **DISENGAGED** positions.

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16. The method as set forth in Claim 15, further comprising the steps of:

providing said connection means as at least one
25 spring member having a first end portion operatively con-nected to said chassis framework, and a lift member, select-ed from the group comprising a lift cable, a lift strap, and a lift belt, having a first end portion operatively connect-ed to said film roll carriage and a second end portion ope-
30 ratively connected to a second end portion of said at least one spring member;

moving said film roll carriage to a vertically lower **START** position so as to cause said at least one spring member to be operatively moved from a normally **CONTRACTED** state to an operatively **EXTENDED** state; and

5 moving said control means from said **ENGAGED** position with respect to said lift member to said **DISENGAGED** position with respect to said lift member so as to permit said at least one spring member to vertically move said film roll carriage from said lower **START** position toward an upper **FIN-**
10 **ISH** position as said at least one spring member returns from said operatively **EXTENDED** state toward said normally **CON-**
TRACTED state whereby wrapping of the article can proceed in accordance with a bottom-to-top mode of operation.

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17. The method as set forth in Claim 16, further comprising the step of:

providing said at least one spring member as a
20 pair of negator spring members.

18. The method as set forth in Claim 16, further comprising
25 the step of:

manually operating reset means, operatively connected to said film roll carriage, for moving said film roll carriage from said upper **FINISH** position back to said lower **START** position, upon completion of the article wrapping operation, in preparation for a new article wrapping operation.
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19. The method as set forth in Claim 18, further comprising the step of:

mounting a reset handle upon said film roll carriage; and

5 manually moving said film roll carriage vertically downwardly from said upper **FINISH** position to said lower **START** position by pulling downwardly upon said reset handle.

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20. The method as set forth in 18, further comprising the steps of:

connecting a first end portion of a reset cable
ted to said film roll carriage, and connecting a second end
15 portion of said reset cable to a rotary sheave member; and

rotating said rotary sheave member for coiling
said reset cable thereon so as to move said film roll carriage vertically downwardly from said upper **FINISH** position to
said lower **START** position.

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21. The method as set forth in Claim 15, further comprising the steps of:

25 providing said connection means as at least one spring member having a first end portion operatively connected to said chassis framework, and a lift member, selected from the group comprising a lift cable, a lift strap, and a lift belt, having a first end portion operatively connect-
30 ed to said film roll carriage and a second end portion operatively connected to a second end portion of said at least

one spring member;

moving said control means from said **ENGAGED** position with respect to said lift member to said **DISENGAGED** position with respect to said lift member so as to permit said
5 at least one spring member to vertically move said film roll carriage to an upper **START** position as said at least one spring member moves from an operatively **EXTENDED** state back toward a normally **CONTRACTED** state whereby wrapping of the article can proceed in accordance with a top-to-bottom mode
10 of operation;

manually moving said film roll carriage from said upper **START** position toward said lower **FINISH** position so as to cause said control means to be moved from said **ENGAGED** position with respect to said lift member to said **DISENGAGED**
15 position with respect to said lift member whereby said film roll carriage will be permitted to move toward said lower **FINISH** position, said at least one spring member simultaneously being moved from said normally **CONTRACTED** state to said **EXTENDED** state; and

20 terminating manual movement of said film roll carriage toward said lower **FINISH** position so as to permit said control means to be moved back to said **ENGAGED** position with respect to said lift member so as to maintain said film roll carriage at said lower **FINISH** position.

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22. The method as set forth in Claim 21, further comprising the step of:

30 providing said at least one spring member as a pair of negator spring members.